REMARKS/ARGUMENTS

Applicant has attached hereto and filed herewith a Certified English Translation of Italian Patent Application No. PD2003A000314, filed December 30, 2003, to perfect the claim for priority under 35 U.S.C. § 119 in this Application. Therefore, this Application should be entitled to benefit of the December 30, 2003, foreign filing date of Italian Patent Application No. PD2003A000314 under 35 U.S.C. § 119. Accordingly, Lechhart (US 2005/0172513 A1, published August 11, 2005, based on U.S. Application 10/775,350, filed February 10, 2004) is now antedated and no longer prior art.

Claims 39-51, 56, 61-70, 72, and 75-78 are pending in the application. Claim 52 has been deleted. Claims 53-55, 57-60, 71, and 73-74 have been deleted without prejudice or disclaimer in favor of divisional prosecution as being directed to either an invention and/or a species non-elected in response to previous restriction and election of species requirements and withdrawn from further consideration by the Examiner. Applicant gratefully acknowledges the Examiner's quick response to a telephone inquiry on August 6, 2010, asking whether separate independent claims directed to previously considered Claim 53 and Claim 61 would be subject to the election of species. The Examiner indicated that the polysiloxane species had previously been elected. Therefore, Claims 53-55 are directed to a polypropylene-based microporous hydrophobic material which is a non-elected species and remain subject to the previous requirement to elect species. As previously required, Applicant elected the polysiloxane as the second layer and elected to prosecute all claims directed thereto.

Of the claims still pending in the Application, Claims 39, 45, 50, 56, 61-66, 69-70, and 72 are currently amended. Previously presented method Claims 75-76 have been withdraw from further consideration by the Examiner as directed to an invention non-elected in response to previous restriction and election of species requirements. However, the

Examiner indicated that Applicant may later request rejoinder of the withdrawn method claims. Office Action dated April 9, 2010 (OA), page 2, ¶ 2). Claims 77-78 are new.

New Claims 77-78 are supported in the Specification at page 7, lines 22-25. Claim 45 has been amended to correct a typographical error. The amendments to Claims 39, 56, and 61-62 are supported in the Specification at page 7, line 10, to page 10, line 5. Specific support for "a plasma deposited ultrathin film" is found in the Specification at page 7, lines 10-21, and page 8, lines 6-8. Specific support for plasma deposition of an oil-repellant and water-repellant fluoropolymer or a polysiloxane is found in the Specification at page 7, lines 22-28, original Claims 29 and 32-36. Specific support for plasma deposition of a monomer and a siloxane-based monomer is found in the Specification at page 7, lines 22-25; page 8, lines 17-20; page 9, lines 8-10 and 13-15; and original Claims 29 and 32. The other amendments to Claims 39, 50, 56, 61-66, 69-70, and 72 are either editorial in nature, change the dependency thereof, and/or required for dependent consistency.

No new matter is added.

Objection to Claim 45

The Examiner objected to the erroneous reference to "pm" for μm in Claim 45 (OA, p. 3, ¶ 3). The typographical error is now corrected. Accordingly, the objection should be withdrawn.

Rejections of Claims 39-55 under 35 U.S.C. § 102(e)/§ 103 over Lechhart

Previously presented Claims 39-55 were rejected under 35 U.S.C. § 102(e) as anticipated by, or under 35 U.S.C. § 103 as obvious in view of, Lechhart (US 2005/0172513 A1, published August 11, 2005, based on U.S. Application 10/775,350, filed February 10, 2004 (OA, pp. 3-4, ¶ 6). The rejection should be withdrawn.

Attached is a Certified English Translation of Italian Patent Application No. PD2003A000314, filed December 30, 2003, which is filed to perfect Applicant's claim for

priority under 35 U.S.C. § 119 in this Application. Having perfected Applicant's claim for priority under 35 U.S.C. § 119, this Application is entitled to benefit of the December 30, 2003, foreign filing date of Italian Patent Application No. PD2003A000314. Accordingly, Lechhart (US 2005/0172513 A1, published August 11, 2005, based on U.S. Application 10/775,350, filed February 10, 2004) has now been antedated and no longer is prior art under 35 U.S.C. § 102(a), §102(e), or otherwise. Thus, the Examiner's rejections under 35 U.S.C. § 102(e)/103 should be withdrawn.

Rejections of Claims 39-52, 56, 61-70, and 72 under 35 U.S.C. § 102 or § 103 over Rechlicz

Previously presented Claims 39-52, 56, 61-70, and 72 were rejected under 35 U.S.C. § 102 and/or 35 U.S.C. § 103 over Rechlicz (OA, p. 4, ¶ 7). As applied to currently amended Claims 39-51, 56, 61-70, 72, and 75-76 and new Claims 77-78, the rejections should be withdrawn.

The Examiner finds that Rechlicz "teaches a coated article comprising a moisture vapor permeable coating of polysiloxane on one side of the sheet of microporous material (abstract)" (OA, p. 4, ¶ 7). The Examiner additionally finds that Rechlicz' sheet of microporous material reasonably appears to be the same or substantially the same as the first layer of Applicant's waterproof vapor-permeable multilayer article made of a vapor-permeable, microporous polyolefin matrix and a siliceous filler (OA, pp. 4-5, ¶ 7). Nevertheless, the Examiner acknowledges that Rechlicz' second layer of a polysiloxane coating is applied by conventional coating techniques. The Examiner states (OA, p. 5, ¶ 7; emphasis added):

> Rechlicz does not specifically disclose the polysiloxane coating is obtained by way of a plasma deposition treatment. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the Examiner's position that the article of Rechlicz is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The coated article comprises a moisture vapor permeable coating of polysiloxane on one side of the sheet of microporous material (abstract).

The Examiner's rejections, and findings and conclusions in support thereof, do no apply to Applicant's currently amended claims.

First, Rechlicz' second layer is a continuous coating of hydrophobic polymer which appears to be permeable to moisture on one side of the microporous sheet material (Rechlicz, col. 13, lines 16-24). Rechlicz' preferred hydrophobic polymers are elastomeric polysiloxanes known as silicones which form a network polymer when crosslinked (Rechlicz, col. 13, ll. 56-60). Rechlicz' elastomeric hydrophobic polysiloxanes are thermoplastic or preferably crosslinked (Rechlicz, col. 13, l. 61, to col. 14, l. 10). Rechlicz teaches (Rechlicz, col. 14, ll. 11-29; emphasis added):

> There are many techniques for applying the coating to the microporous material. Thermoplastic polymers, for example, may be applied as a hot extruded film, as a solution, as an aqueous emulsion, or as a nonaqueous dispersion. In the case of solutions, aqueous emulsions, and nonaqueous dispersions, the solvent or continuous phase is removed after application so that the polymer will coalesce into a substantially continuous coating. Crosslinkable polymers are generally applied as a solution, aqueous emulsion, or nonaqueous dispersion, and after removal of the solvent or continuous phase, the polymer is crosslinked to form a hydrophobic metwork polymer. Solutions, aqueous emulsions, and nonaqueous dispersions may be applied by any technique . . . such as for example, drawdown using a drawdown bar or doctor blade, spraying, curtain coating, roller application, printing, and brushing.

It would have been evident to persons having ordinary skill in the art that Rechlicz' conventional techniques for applying a coating of polysiloxane polymer to a microporous underlayer do not apply a polysiloxane film having all the characteristics of the plasma deposited ultrathin polysiloxane film to a microporous underlayer in accordance with Applicant's currently claimed multilayer article. To the contrary, Rechlicz teaches that each of the microporous sheets of its Examples 10-16 were coated at least once with elastomeric silicone emulsion-coating compositions using a 15 millimeter diameter glass draw rod to a dried coating weight ranging from 4.11 to 44.63 g/m^2 (Rechlicz, col. 24, Table VIII, Sample A). On the other hand, Applicant teaches that the maximum final form of its microporous first layer has a thickness desirably between 200 to 600 μm (Spec., p. 4, ll. 14-16) and that

the thickness of the first coating layer is always thicker than any second layer whether it is conventionally applied or plasma deposited (Spec., p. ll. 16-20). Therefore, persons having ordinary skill in the art reasonably would have expected that a conventionally coated second layer of a multilayer article would be at least 200 μm or 0.2 mm thick. To the contrary, persons having ordinary skill in the art would have understood that plasma deposited ultrathin films of (1) an oil-repellent and water-repellent fluoropolymer or (2) a polysiloxane are substantially thinner than conventionally coated layers of polysiloxane, i.e., much thinner than 200 μm, and have a dried coating weight substantially less than Rechlicz' minimum dried coating weight of 4.11 g/m^2. Moreover, it also would have been apparent to persons having ordinary skill in the art that plasma deposited ultrathin films of polysiloxane prepared under the conditions required by current Claims 62-65 for the duration required by current Claims 66-67 are ultrathin films of polysiloxane much thinner than 200 μm and have a dried coating weight substantially less than 4.11 g/m^2.

All Applicant's claims require a second layer that is waterproof and vapor-permeable and is a plasma deposited ultrathin film. Conventional coating techniques such as described by Rechlicz are not used to produce ultrathin polysiloxane films. Plasma deposition treatment is used to produce ultrathin polysiloxane films. Rechlicz would not have taught, reasonably suggested, or enabled one skilled in the art to make and use plasma deposited ultrathin films of polysiloxane, or plasma deposited films of any other polymeric material, on a first layer of vapor-permeable and microporous material. Prior art which forms the evidentiary basis for an obviousness rejection must enable one skilled in the art to make and use Applicant's claimed invention to sustain a rejection under 35 U.S.C. § 103. *In re Hoeksema*, 399 F.2d 269, 274 (CCPA 1968). If not, the rejection should be withdrawn.

Additional advantages and characteristics which distinguish plasma deposited films from conventional coatings are:

(1) The porosity, morphology, permeability, and uniform characteristics of plasma deposited films are much more easily controlled by applying plasma deposition treatment and altering plasma deposition parameters.

(2) Plasma deposited films have comparatively lower levels of impurities than do films formed from conventional coating methods. Thus, films with higher levels of impurities tend generate more fractures, discontinuities, and distortions than do plasma deposited films.

(3) The bonding between the first layers and second layers plasma deposited thereon is extremely strong as a result of the chemical interactions which occur between the layers during plasma deposition treatment. To the contrary, application of coatings by the conventional techniques described in Rechlicz does not produce bonds of comparable strength because the interactions between the layers are physical rather than both chemical and physical.

Specifically with regard to the strength of bonding between a microporous first layer and a plasma deposited film thereon, Applicant's Specification teaches (Spec., p. 11, ll. 21-29):

> It should be noted that the use of plasma deposition solves the problems of conformity and adhesion of the first layer on the second layer, since the plasma-deposited polymer adheres to the backing layer for a longer time than, for example, a conventional spreading.
>
> Moreover, since the waterproof film is deposited in partial vacuum conditions, and since the backing material can be cleaned in the reaction chamber beforehand with argon with a high degree of purity, any impurities that could generate fractures, discontinuities, distortions of the deposited waterproof film are completely avoided.

In re Marzocchi, 439 F.2d 220, 223-224 (CCPA 1971), instructs that it is incumbent upon anyone who doubts the truth or accuracy of any statement in the supporting disclosure to explain those doubts and back up the assertions with acceptable evidence or reasoning. Here, the Examiner summarily dismisses the teaching in Applicant's Specification that a

multilayer article produced by plasma deposition of an ultrathin film of polysiloxane has characteristics, properties, and benefits which are not inherent in multilayer articles produced by conventional coating techniques without explaining why and backing up the findings of substantial identity and inherency and assertions of prima facie obviousness with acceptable evidence or reasoning. On this record, the greater weight of the evidence supports the patentability of the currently claimed articles over the applied prior art.

Accordingly, the patentability of Applicant's current claims should not be rejected as anticipated by, or obvious in view of, Rechlicz. There is no evidence of record that plasma deposited ultrathin films of polysiloxane are the same or substantially the same as conventionally produced coatings of polysiloxane having a dried coating weight of at least 4.11 g/m^2, especially considering the improved purity of second layers and improved bonding strength of second layers formed by plasma deposition treatment over that of conventional coating techniques.

New Claims 77-78 additionally require that said at least one second layer of the multilayer article of Claim 39 is a plasma deposited ultrathin film on a microporous backing material. No teaching in Rechlicz reasonably would have suggest that particular composite.

Rejections of Claims 53-55 under 35 U.S.C. § 103 over Rechlicz in view of Gohlke

Previously presented Claims 53-55 were rejected under 35 U.S.C. § 103 over Rechlicz in view of Gohlke (U.S. Patent 4,344,999, issued August 17, 1982). The rejection is moot because Applicant's Claims 53-55 have been cancelled without prejudice of disclaimer as directed to a non-elected species.

The second layer of the multilayer article of previously presented Claims 53-55 was a polypropylene-based microporous hydrophobic material. Applicant elected the polysiloxane species in response to the Examiner's previous requirement to elect a species of polymer forming the second layer. Accordingly, all of Applicant's currently amended and new claims

are directed to multilayer articles wherein the second layer is a plasma deposited ultrathin film of polysiloxane. Claims 53-55 were not directed to the elected species. Accordingly, Claims 53-55 are cancelled without prejudice of disclaimer, and the Examiner's rejections of cancelled Claims 53-55 should be moot.

Rejections of Claims 39, 61-65, and 69 under 35 U.S.C. § 102/§103 over JP'635

Previously presented Claims 39, 61-65, and 69 were rejected under 35 U.S.C. § 102 as anticipated by, or under 35 U.S.C. §103 as obvious in view of, JP'635 (JP2002-336635, published November 26, 2002)(OA, p. 8, ¶ 9). The rejections are not applicable to Applicant's currently amended claims.

JP describes a sheet-like desiccant comprising (1) a middle layer of non-woven fabric containing water-absorbing fiber, which is coated on one side by (2) a moisture permeable water-impermeable film having a high level of water-vapor permeability and coated on the other side by (3) a moisture permeable water-impermeable film having a low level of water-vapor permeability (JP'635, Abstract). The Examiner finds (OA, p. 8, ¶ 9):

> The non-woven fabric reads on the claimed first layer whereas one of the films reads on the claimed second layer. JP'635 does not specifically [describe, sic] the film having been applied over the fabric material by plasma deposition treatment. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article.

The Examiner's findings and conclusions are based at least in part on findings that the multilayer articles Applicant claims and those described by JP'635 "are formed from the same materials, having structural similarity" and thus reasonably appear to have the same or a similar layer of moisture permeable and water-impermeable film (OA, p. 8, ¶ 9).

First, while JP'635 appears to describe a multilayer article with a second layer that is waterproof and vapor-permeable, it does not teach that the particular materials or structural characteristics of its outer moisture permeable and water-impermeable films are the same or similar to those which form the second layer of Applicant's currently claimed multilayer

article. See JP'635 [0011-0013]. The second layer of Applicant's currently claimed multilayer article is not only waterproof and vapor-permeable, but it is a plasma deposited ultrathin film of (1) an oil-repellent and water-repellent fluoropolymer or (2) a polysiloxane. JP'635 does not describe a waterproof and vapor-permeable second layer of a film of (1) an oil-repellent and water-repellent fluoropolymer or (2) a polysiloxane, or a plasma deposited ultrathin film of (1) an oil-repellent and water-repellent fluoropolymer or (2) a polysiloxane. Moreover, the polymeric materials JP'635 recommends for use as the outer films do not appear to be formable by plasma deposition treatment.

In addition, the composite multilayer articles described by JP'635 are not vapor-permeable, because they do not enable water vapor to pass freely through them. Rather, the multilayer articles described by JP'635 absorb water vapor and retain or hold water vapor as would any prior art article which is a desiccant and is designed to function as a desiccant. JP'635 expressly states that its multilayer article is a "sheet-like desiccant" (JP'635, Abstract). To the contrary, Applicant claims "[a] waterproof vapor-permeable multilayer article" (Currently Amended Claim 39).

Further, JP'635 appears to teach that its non-woven fabric and two water-impermeable films are joined or laminated only at their peripheral edges or borders to form a sack of desiccant-containing non-woven fabric material (JP'635, Abstract, Detailed Description). The examples in JP'635 indicate that the peripheral edges are invariably laminated by thermal melting [0018; 0024; 0025]. Hence, the outer layers of the multilayer articles taught by JP'635 are not bonded throughout their surfaces, as the currently claimed multilayer articles require. Applicant's second layer is an ultrathin film plasma deposited on the first layer or backing material joined to the first layer. Thus, the currently claimed multilayer articles requires at least one second layer to be bonded together with the first layer to form a water-impermeable and vapor permeable membrane-type composite which is useful

as a waterproofing lining for shoes and coats. Unlike the article JP'635 describes, Applicant's claimed multilayer article is not a sheet-like desiccant which absorbs and retains moisture.

JP'635 teaches that its outer films may have a thickness of 10-500 micrometers [0013]. However, JP'635 expressly states that the thickness of its films may not be less than 10 micrometers. Moreover, nowhere does JP'635 teach or reasonably suggest that the films may be plasma deposited ultrathin films of (1) an oil-repellent and water-repellent fluoropolymer or (2) a polysiloxane. As previously identified in response to the rejections over the teaching of Rechlicz, additional advantages and characteristics which positively distinguish plasma deposited films from conventional coatings are:

(1) The porosity, morphology, permeability, and uniform characteristics of plasma deposited films are much more easily controlled by applying plasma deposition treatment and altering plasma deposition parameters.

(2) Plasma deposited films have comparatively lower levels of impurities than do films formed from conventional coating methods. Thus, plasma deposited films will have comparatively fewer breaks, discontinuities, and distortions than conventional films.

(3) The bonding of plasma deposited films to other layers is mush stronger than the bonding of conventional films to other layers because of the chemical interactions which occur between the layers during plasma deposition treatment. Conventional applied films do not bond to other layers with comparable strength because the interactions between the layers are physical only, not both chemical and physical.

Accordingly, Applicant's currently amended and new claims are not anticipated by, or obvious in view of, the teaching of JP'635.

For the reasons stated herein, Applicant's currently amended and new claims are patentable over the applied prior art and otherwise in condition for allowance. Accordingly, early Notice of Allowance is respectfully requested.

Respectfully submitted,

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